

Weather Working Group Update Next Generation Air Transportation System (NextGen)

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Warning: Broken Glass Ahead

Our charge:
(significantly) reduce weather impacts on the
future National Airspace System

But first...

The Assumptions

- Transformation, not evolution or transition
- A **highly-automated** Trajectory-Based Operations (TBO) end-state
 - Becomes the premise for the “Four-Dimensional (4D) Weather Cube”
 - Subsequently drives the requirement for weather information consistency
- New and updated processes would be required
 - Monumental changes to both the weather provider community as well as the system “user” of that data

Introduction to Weather Concept of Operations (ConOps)

- Weather providers deliver a four-dimensional set of weather information
 - Operators/Mangers will have a common weather picture by using a subset of this information called the Single Authoritative Source (SAS)
- In the NextGen ConOps, weather information will be fully integrated into operations and decision-support tools
 - Data, rather than text and graphics becomes the “product”
- 4D weather will assist decision-makers by integrating with new tools that will describe the full range of available options to deal with weather issues
 - Identifies risk
 - Suggests strategies
 - Minimizes user disruptions

The Elephants in the Room

- Roles of humans and automation
 - NextGen Command and Control Concept
 - NextGen Weather Provision Concept
- Who pays for what?
- What equipage is required/mandated?
- How does industry participate?
- Major concern: This is the same list as 2003

Today/NextGen

Weather Information Attributes

<u>Today</u>	<u>NextGen (new requirements)</u>
<ul style="list-style-type: none">• Not integrated into aviation decision support systems (DSS)	<ul style="list-style-type: none">• Totally integrated into DSS
<ul style="list-style-type: none">• Inconsistent/conflicting on a national scale	<ul style="list-style-type: none">• Nationally consistent
<ul style="list-style-type: none">• Low-temporal resolution (for aviation decision-making purposes)	<ul style="list-style-type: none">• High-temporal resolution
<ul style="list-style-type: none">• Disseminated in minutes	<ul style="list-style-type: none">• Disseminated in seconds
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<ul style="list-style-type: none">• Fixed product formats (graphic or text)	<ul style="list-style-type: none">• Flexible formats

Our Challenges

- Changing paradigms in multiple agencies
 - Changes roles and requirements of weather providers
 - Changes the operational use of weather information
 - “Disturbs” pre-existing weather relationships
 - Requires a common lexicon and set of processes
 - Interagency budget synchronization (including support/direction from higher levels) a work in progress

Sequence of Events

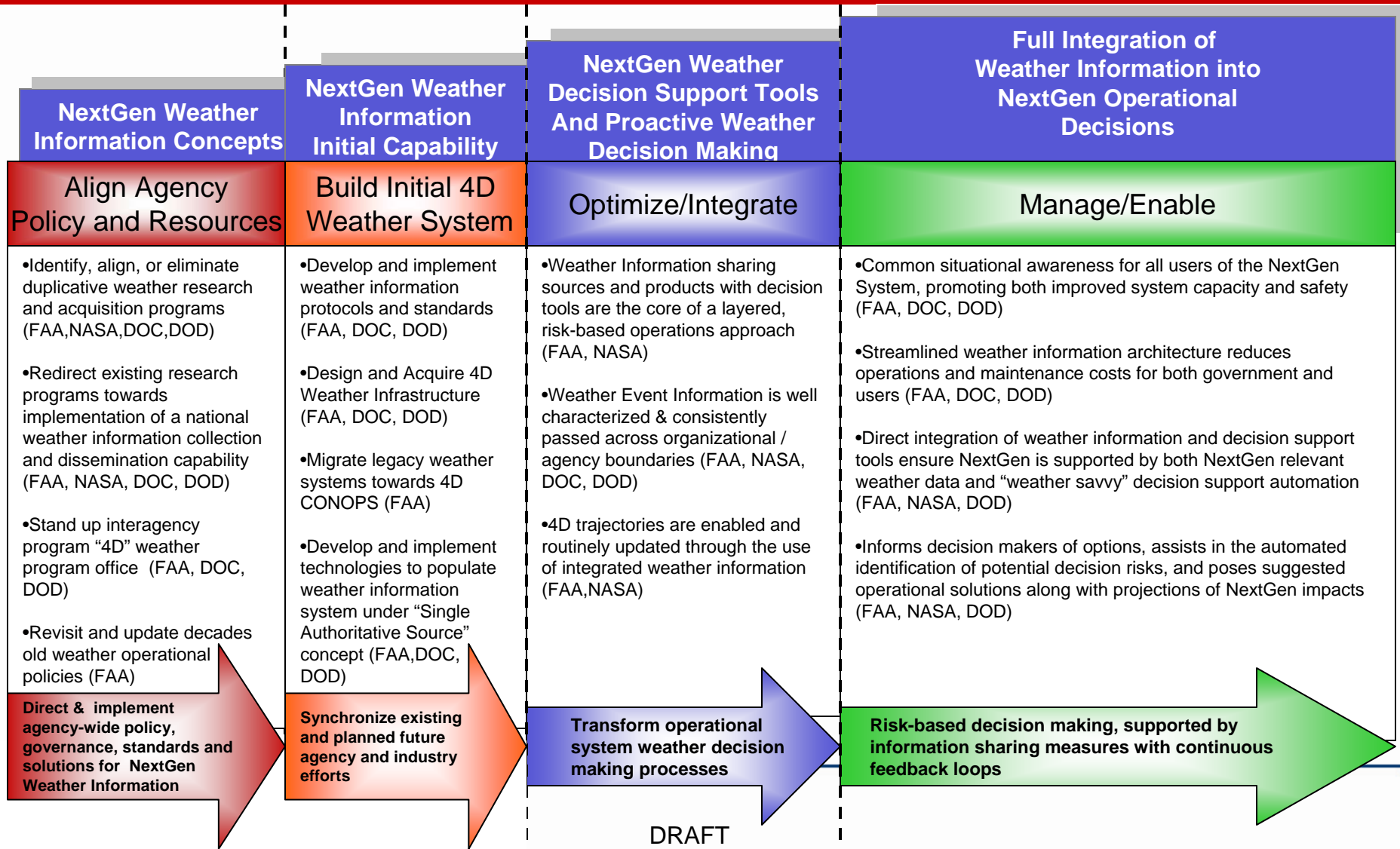
- Two competing philosophies
 - “Build it and they will come”
 - “I don’t plan against vaporware”
- Integrated Work Plan (Interagency)
 - Net-Centric Operations first (2012)
 - Weather (2013)
 - Demonstrate NextGen capabilities (2014-2015)

Status

- Good News
 - NextGen Executive Weather Panel formed and routinely meeting to work these issues
 - 4D Weather Cube plan under development and agency coordination
 - Weather Integration plan out for comment
 - Formal agency coordination later this summer to meet fiscal year end commitment to Senior Policy Committee
- Join us for Friends/Partners of Aviation Weather Meeting
 - July 22 at National Transportation Safety Board (NTSB) Conference facility

Weather

2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025



Questions?

Thank You!